1

2 **<u>REMARKS</u>**

3 These remarks follow the order of the paragraphs of the office action. Relevant portions of the

4 office action are shown indented and italicized.

5

6 *DETAILED ACTION*

7

8 *1. Claims 1 - 40 are presented for examination.*

9

10

11 *Claim Rejections -35 USC § 112*

12

13 *2. The following is a quotation of the second paragraph of 35 U.S.C. 112: The*
14 *specification shall conclude with one or more claims particularly pointing out and*
15 *distinctly claiming the subject matter which the applicant regards as his invention.*

16

17 *3. Claims 1, 17, 20, 25, 27, and 31 are rejected under 35 U.S.C. 112, second paragraph*
18 *as being indefinite for failing to particularly point out and distinctly claim the subject*
19 *matter which applicant regards as the invention.*
20 *Claims 1, 17, 20, 25, 27, and 31 recite "related objects", "relevant objects", "learning*
21 *objects", "particular objects", and "target objects". The objects are not descriptive of any*
22 *particular data structure. In other words, the claim imitation comprising "related object",*
23 *"relevant objects", learning objects', "particular objects" and "target objects" do not*
24 *define or state what these particular objects represent or what these objects are.*

25

26 In response, the applicant respectfully states that as used herein and as in the specification, the

27 meaning of the terms are as follows:

28 An 'object' is an item returned from a search query. Examples of objects include Web

29 pages, documents, videos, and other single media, multimedia, and other digital data. The

30 query is a specification of the desired objects. Examples of queries include text strings,

31 lists of keywords, and Boolean combinations of terms.

32

33 'Related objects' are are search results that match the query and are mapped to the same

34 category or mapped to multiple categories wherein the multiple categories are connected

35 in a category graph.

36

1   'Relevant objects' are ranked search results wherein a higher rank indicates more relevance
2   to a query. In the preferred embodiment, these search results are digital data, such as web
3   pages. The ranking is determined using a prior art program.
4
5   'Learning objects', are executable programs that present digital data to a user. In the
6   preferred embodiment, said executable programs run within Web pages and present text,
7   images, video, and other media and multi-media to a user. In the preferred embodiment,
8   said executable programs include tests with scores on said tests reported to a separate
9   software system, such as a learning management system. A test is an interactive program
10   that presents questions and the user inputs answers to said questions.
11
12   'Particular objects' are the most relevant search results that meet the object selection
13   criteria and are mapped to one of a set of categories wherein said categories are connected
14   in an undirected or directed graph and said categories are along a best path in the graph.
15   Examples of object selection criteria are constraints, such as not exceeding a maximum
16   duration.
17
18   'Target objects' are a selected subset of the most relevant search results. In one
19   embodiment, the selected subset is a fixed number of the most relevant search results. In
20   another embodiment, the selected subset is an input. The input coming a user, for
21   example.
22
23   A category is a logical grouping of objects that forms the nodes of a graph
24
25   Category relationships are associations between categories that form the edges of the
26   graph, [said edges having been defined independently from queries]
27
28   Claims 1, 17, 20, 25, 27, and 31 are amended to better indicate their specific meaning as defined
29   above. This overcomes the rejection of Claims 1, 17, 20, 25, 27, and 31 under 35 U.S.C. 112,
30   second paragraph, and Claims 1, 17, 20, 25, 27, and 31 are allowable.

1

2 *Claim Rejections -35 USC § 102*

3

4   *4. The following is a quotation of the appropriate paragraphs of 35 U.S.C 102 that*

5 *form the basis for the rejections under this section made in this Office action:*

6 *A person shall be entitled to a patent unless -*

7 *(e) the invention was described in (1) an application for patent, published under section*

8 *122(b), by another filed in the United States before the invention by the applicant for*

9 *patent or (2) a patent granted on an application for patent by another filed in the United*

10 *States before the invention by the applicant for patent, except that an international*

11 *application filed under the treaty defined in section 351(a) shall have the effects for*

12 *purposes of this sub-subsection of an application filed in the United States only if the*

13 *international application designated the United States and was published under Article*

14 *21(2) of such treaty in the English language.*

15

16   *5. Claims 1 - 40 are rejected Under 35 USC. 102(e) as being anticipated by Bowman at*

17 *el. (Pat. No. 7,050,992 BI filed June 25, 1999 hereinafter Bowman).*

18

19 In response, the applicant respectfully states that Claims 1 - 40 are apparently not anticipated by

20 the invention of Bowman. The present invention, claimed in Claims 1 - 40, provides:

21   "system, methods, and apparatus for organizing objects most relevant to a current query.

22   It provides a method to collect the objects into a set based upon their relevance ranking,

23   associated metadata including categories, and the proximity of these categories in a graph.

24   The method provides for selecting objects according to estimated difficulty, resource type,

25   media format, or other criteria. It also provides for connecting objects into a best path in

26   the graph. It also provides for selecting objects to fit a desired total duration and

27   coverage of relevant categories in the graph. It also provides for organizing the objects

28   into a particular sequence according to the particular metadata. The system, methods, and

29   apparatus are suitable for use in information systems, learning management systems, and

30   other systems employing data retrieval."

31

32 The cited art to Bowman, US Patent 7,050,992, filed: June 25, 1999, is entitled: "Identifying

33 items relevant to a current query based on items accessed in connection with similar queries". The

34 Bowman abstract reads :

1   "The present invention provides a software facility for identifying the items most relevant

2   to a current query based on items selected in connection with similar queries. In preferred

3   embodiments of the invention, the facility receives a query specifying one or more query

4   terms. In response, the facility generates a query result identifying a plurality of items that

5   satisfy the query. The facility then produces a ranking value for at least a portion of the

6   item identified in the query result by combining the relative frequencies with which users

7   selected that item from the query results generated from queries specifying each of the

8   terms specified by the query. The facility identifies as most relevant those items having the

9   highest ranking values."

10 Thus, Bowman is concerned with items selected in connection with queries prior to the current

11 query. Bowman is not concerned with items selected based upon categories in a graph of

12 categories as in claims 1-40. Thus, the method and apparatus of claims 1-40 return items

13 matching a query wherein the items can each be in different categories and the categories selected

14 are determined by the connections between said categories in the category graph and various

15 heurstic criteria including the relevance (scores) of items in the various categories in the category

16 graph, whereas Bowman returns items matching the query wherein the items are in the same

17 category and the category is part of the query. The method and apparatus of claims 1-40 returns

18 items related through a path in the category graph (and hence they are "coherent") and Bowman's

19 method returns items in a category supplied in the input query (as is done in prior art).

20 Thus claims 1-40 are allowable over Bowman.

21

22   *6. Regarding Claims 1, 9, 12, 17, 20, 25, 27, and 31, Bowman teaches identifying items*

23   *relevant to a current query based on items accessed in connection with similar queries.*

24   *The method and associated system for identifying items relevant to a current query*

25   *based on items accessed in connection with similar queries as taught or suggested by*

26   *Bowman includes: searching for a list of relevant objects and obtaining a rank-ordered*

27   *list of relevant objects (col. 4, lines 1-26 and 50-67, col. 6, lines 16 - 67, col. 7, lines 1-*

28   *67); selecting any target objects from the rank-ordered list (col. 4, lines 5-7, col. 6, Fines*

29   *16- 56); mapping the relevant objects in the rank-ordered list into categories (col. 7,*

30   *lines 21-47); connecting the categories into paths in a graph (col. 8, lines 57-67, col. 9,*

31   *lines 15-27 and 35-67, col. 10, lines 1-5), the graph having a node for each category and*

32   *edges connecting categories (col. 5, lines 45-62); terminating a graph traversal of*

33   *categories based upon reaching category nodes having at least one target object if there*

34   *is a target object (col. 9, lines 28-67, col. 10, lines 1 - 34), and if there is no target object*

35   *then terminating said graph traversal within a proximity in the graph near the most*

1 *relevant category (col. 9, lines 28-07, col. 10, lines 1-34); choosing a best path in the*
2 *graph based upon a path evaluation criterion (col. 8 lines 57-67, col. 9, lines 15- 27 and*
3 *35-67, col. 10, lines 1-5); selecting particular objects in categories on the best path*
4 *based upon an object selection criterion (col. 8, lines 57-67. col. 9, lines 15-27 and 35-*
5 *67, col. 10, lines 1 -5); choosing a best path in the graph based upon a path evaluation*
6 *criterion (col. 8, lines 35-67, col. 9, lines 1-67); selecting particular objects in categories*
7 *on the best path based upon an object selection criterion (col. 4. lines 5-7, col. 6, lines*
8 *16-56); sorting the particular objects on the best path according to a comparison*
9 *function (col. 6! lines 1-67 col. 7, lines 1-67 col. 8, lines 1-67, col. 9, lines 1-67); end*
10 *obtaining an ordered set of objects to satisfy the query (Abstract, col. 4, lines 1-67, col.*
11 *5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*
12

13 In response, the applicant respectfully states that exception is taken with the alleged equivalence

14 of Bowman and the elements of claim 1. Claim 1 as amended reads:

15   1. A method for data retrieval, said method comprising creating a set of related objects

16   from a collection of objects, each object in the set being an item returned from a search

17   query, said items being in a plurality of categories, and categories selected are determined

18   by the connections between said categories in a category graph, said related objects being

19   search results that match the query and are mapped to multiple categories wherein the

20   multiple categories are connected in a graph, the step of creating including the steps of:

21

22   searching for a list of relevant objects, each relevant object being a ranked search result

23   wherein a rank indicates relevance to the query, and obtaining a rank-ordered list of said

24   relevant objects;

25
26   selecting any target objects from the rank-ordered list, each target object being a member

27   of a selected subset of the search results;

28

29   mapping the relevant objects in the rank-ordered list into categories;

30

31   connecting the categories into paths in a graph, said graph having a node for each

32   category and edges based upon category relationships;

33

1   terminating a graph traversal of said categories based upon reaching category nodes

2   having at least one target object if there is a target object, and if there is no target object

3   then terminating said graph traversal within a proximity in the graph near the most relevant

4   category;

5

6   choosing a best path in the graph based upon a path evaluation criterion; and

7

8   selecting particular objects in categories on the best path based upon an object selection

9   criterion, each particular object being an object included in search results that meet the

10   object selection criterion.

11

12 Claim 1 is novel over Bowman for several reasons. For example, in claim 1, the category nodes

13 and edges are defined independently from the queries. Bowman doesn't use a graph of category

14 nodes and edges defined independently from queries. A review of the often lengthy cited portions

15 of Bowman, which include (col. 4, lines 1-26 and 50-67, col. 6, lines 16 - 67, col. 7, lines 1-67);

16 (col. 4, lines 5-7, col. 6, Fines 16- 56); (col. 7, lines 21-47); (col. 8, lines 57-67, col. 9, lines 15-27

17 and 35-67, col. 10, lines 1-5), (col. 5, lines 45-62); (col. 9, lines 28-67, col. 10, lines 1 - 34), (col.

18 9, lines 28-07, col. 10, lines 1-34); (col. 8 lines 57-67, col. 9, lines 15- 27 and 35-67, col. 10, lines

19 1-5); (col. 8, lines 57-67. col. 9, lines 15-27 and 35-67, col. 10, lines 1 -5); choosing a best path in

20 the graph based upon a path evaluation criterion (col. 8, lines 35-67, col. 9, lines 1-67); (col. 4.

21 lines 5-7, col. 6, lines 16-56); (col. 6! lines 1-67 col. 7, lines 1-67 col. 8, lines 1-67, col. 9, lines 1-

22 67); and (Abstract, col. 4, lines 1-67, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67),

23 indeed fails to show that Bowman alludes to or anticipates all the elements of claim 1. In order to

24 anticipate a claim, the reference must anticipate all the elements of the claim.

25

26 For example, Bowman doesn't allude to "related objects being query search results relevant to the

27 query and being mapped to a same category or mapped to categories connected in a category

28 graph." Bowman doesn't allude to the traversal of edges connecting categories of items as a

29 method of collecting items as in claim 1. Bowman does not traverse a graph of categories to

30 collect items as in claim 1. Bowman doesn't allude to, "items being in a plurality of categories."

1　Bowman doesn't allude to, "categories selected aree determined by the connections between said

2　categories in a category graph." Bowman doesn't allude to, "related objects being search results

3　that match the query and are mapped to multiple categories wherein the multiple categories are

4　connected in a graph."

5

6　A lengthy reference cited above to Bowman apparently does not do "choosing a best path in the

7　graph based upon a path evaluation criterion," in (col. 8, lines 35-67, col. 9, lines 1-67), as alleged

8　above. Bowman (col. 8, lines 35-67, col. 9, lines 1-67) reads:

9　　The process used by the facility to identify user selections is dependent upon both the kind
10　　of selection action used by the facility and the manner in which the data relating to such
11　　selection actions is stored. One preferred embodiment uses as its selection action requests
12　　to display more information about items identified in query results. In this embodiment, the
13　　facility extracts this information from logs generated by a web server that generates query
14　　results for a user using a web client, and allows the user to select an item with the web
15　　client in order display additional information about it. A web server generally maintains a
16　　log detailing of all the HTTP requests that it has received from web clients and responded
17　　to. Such a log is generally made up of entries, each containing information about a
18　　different HTTP request. Such logs are generally organized chronologically. Log Entry 1
19　　below is a sample log entry showing an HTTP request submitted by a web client on behalf
20　　of the user that submits a query.
21
22　　1. Friday, 13 Feb. 1998 16:59:27
23
24　　2. User Identifier=82707238671
25
26　　3. HTTP_REFERER=http://www.amazon.com/book_query_page
27
28　　4. PATH_INFO=/book_query
29
30　　5. author="Seagal"
31
32　　6. title="Human Dynamics"
33
34　　Log Entry 1
35
36　　It can be seen by the occurrence of the keyword "book_query" in the "PATH_INFO" line
37　　4 of Log Entry 1 that this log entry corresponds to a user's submission of a query. It
38　　further can be seen in term lines 5 and 6 that the query includes the terms "Seagal",
39　　"Human", and "Dynamics". In line 2, the entry further contains a user identifier
40　　corresponding to the identity of the user and, in some embodiments, also to this particular
41　　interaction with the web server."

1
2   In response to receiving the HTTP request documented in Log Entry 1, the query server
3   generates a query result for the query and returns it to the web client submitting the query.
4   Later the user selects an item identified in the query result, and the web client submits
5   another HTTP request to display detailed information about the selected item. Log Entry
6   2, which occurs at a point after Log Entry 1 in the log, describes this second HTTP
7   request.
8
9   1. Friday, 13 Feb. 1998 17:02:39
10
11 2. User Identifier=82707238671
12
13 3. HTTP_REFERER=http://www.amazon.com/book_query
14
15 4. PATH_INFO=/ISBN=1883823064
16
17 Log Entry 2
18
19 By comparing the user identifier in line 2 of Log Entry 2 to the user identifier in line 2 of
20 Log Entry 1, it can be seen that these log entries correspond to the same user and time
21 frame. In the "PATH_INFO" line 4 of Log Entry 2, it can be seen that the user has
22 selected an item having item identifier ("ISBN") "1883823064". It can further be seen
23 from the occurrence of the keyword "book_query" on the "HTTP_REFERER" line 3 that
24 the selection of this item was from a query result.
25
26 Where information about user selections is stored in web server logs such as those
27 discussed above, the facility preferably identifies user selections by traversing these logs.
28 Such traversal can occur either in a batch processing mode after a log for a specific period
29 of time has been completely generated, or in a real-time processing mode so that log
30 entries are processed as soon as they are generated.
31
32 FIG. 7 is a flow diagram showing the steps preferably performed by the facility in order to
33 identify user selections within a web server log. In step 701, the facility positions a first
34 pointer at the top, or beginning, of the log. The facility then repeats steps 702-708 until
35 the first pointer reaches the end of the log. In step 703, the facility traverses forward with
36 the first pointer to the next item selection event. In terms of the log entry shown above,
37 step 703 involves traversing forward through log entries until one is found that contains in
38 its "HTTP_REFERER" line a keyword denoting a search entry, such as "book_query". In
39 step 704, the facility extracts from this item selection event the identity of the item that
40 was selected and session identifier that identifies the user that selected the item. In terms
41 of the log entries above, this involves reading the ten-digit number following the string
42 "ISBN=" in the "PATH_INFO" line of the log entry, and reading the user identifier from
43 the "User Identifier" line of the log entry. Thus, in Log Entry 2, the facility extracts item
44 identifier "1883823064" and session identifier "82707238761". In step 705, the facility
45 synchronizes the position of the second pointer with the position of the first pointer. That

1   is, the facility makes the second pointer point to the same log entry as the first pointer. In
2   step 706, the facility traverses backwards with the second pointer to a query event having
3   a matching user identifier. In terms of the log entries above, the facility traverses backward
4   to the log entry having the keyword "book_query" in its "PATH_INFO" line, and having a
5   matching user identifier on its "User Identifier" line. In step 707, the facility extracts from
6   the query event to which the second pointer points the terms of the query. In terms of the
7   query log entries above, the facility extracts the quoted words from the query log entry to
8   which the second pointer points, in the lines after the "PATH_INFO" line.

9   There is no reference in Bowman to "a graph." There is no reference in Bowman to "a best path

10 in a graph." There is no reference in Bowman to "a path evaluation criterion". There is no

11 reference in Bowman to "choosing a best path in the graph based upon a path evaluation

12 criterion."

13

14 Furthermore, Bowman doesn't allude to, perform or anticipate a step of, "connecting the

15 categories into paths in a graph, said graph having a node for each category and edges based upon

16 category relationships." Claim 1 connects categories having selected target items, and collects

17 items on a path connecting categories within a proximity of the most relevant category in the

18 graph. Bowman doesn't allude to, perform or anticipate item collection of claim 1. Thus claim 1

19 is allowable over the cited art.

20

21 The comments regarding claim 1 are similarly particularly applicable to independent claims 9, 12,

22 17, 20, 25, 27, and 31.

23

24 A review of the cited portions of Bowman shows that Bowman fails to refer to "[A]n article of

25 manufacture comprising a computer usable medium having computer readable program code

26 means embodied therein for causing data retrieval, the computer readable program code means in

27 said article of manufacture comprising computer readable program code means for causing a

28 computer to effect the steps of claim 1," as in claim 9.

29

30 A review of the cited portions of Bowman shows that Bowman fails to refer to "[A] program

31 storage device readable by machine, tangibly embodying a program of instructions executable by

1　the machine to perform method steps for data retrieval, said method steps comprising the steps of

2　claim 1," as in claim 12.

3

4

5　　　　*7. Regarding Claim 2, Bowman teaches objects are linked (Abstract, col. 4, lines 1- 67,*

6　　　　*col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

7

8　In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

9　show that Bowman alludes to or anticipates claim 2.　Claim 2 depends on allowable claim 1 and is

10　therefore allowable.

11

12　　　　*8. Regarding Claim 3, Bowman teaches objects are documents (Abstract, col. 4, lines 1-*

13　　　　*67, col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

14

15　In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

16　show that Bowman alludes to or anticipates claim 3.　The word 'document' is apparently not even

17　in Bowman.　Bowman does not search for documents.　Bowman apparently searches for auctions.

18　Thus claim 3 is allowable over the cited art for itself and because it depends on allowable claim 1.

19

20　　　　*9. Regarding Claim 4, Bowman teaches satisfy a user query (Abstract, col. 4, lines 1-67,*

21　　　　*col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

22

23　In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

24　show that Bowman alludes to or anticipates claim 4.　Claim 4 has all the elements of claim 1 and

25　is amended to include a limitation that the user query includes criteria about the collection and

26　having a maximum duration for the collection. Thus claim 4 is allowable over the cited art for

27　itself and because it depends on allowable claim 1.

28

29　　　　*10. Regarding Claim 5, Bowman teaches a relevance score (Abstract, col. 4, lines 1- 67,*

30　　　　*col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

31

32　In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

33　show that Bowman alludes to or anticipates claim 5.　Bowman does not allude to a relevance

1   score as defined for claim 5. Thus claim 5 is allowable over the cited art for itself and because it

2   depends on allowable claim 1.

3

4   *11. Regarding Claim 6, Bowman teaches a repository (Abstract; col. 4, lines 1-67, col.*

5   *5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

6

7   In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

8   show that Bowman alludes to or anticipates a repository of claim 6. Bowman does not select

9   items that are objects (executable programs) with a duration. Bowman does not select items that

10 are objects (executable programs) with a level of difficulty. A repository is a collection of objects

11 with associated metadata. Bowman does not mention repository. Thus claim 6 is allowable over

12 the cited art for itself and because it depends on allowable claim 1.

13

14 *12. Regarding Claims 7, 10, Bowman teaches a category (Abstract col. 4, lines 1- 67,*

15 *col. 5, lines 1-67, col. 6, lines 1-67, col. 7, lines 1-67).*

16

17 In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

18 show that Bowman alludes to or anticipates a graph that "is a connected directed graph," as in

19 claim 7. Thus claim 7 is allowable over the cited art for itself and because it depends on allowable

20 claim 1.

21

22 In response, the applicant respectfully states that a review of the cited portions of Bowman fails to

23 show that Bowman alludes to or anticipates "step of mapping includes a step of accessing at least

24 one category included in said metadata description," as in claim 10. Bowman does not allude to

25 or anticipate 'metadata'. Bowman does not allude to or anticipate 'metadata description'.

26 Bowman does not allude to or anticipate 'accessing at least one category included in said metadata

27 description." Thus claim 10 is allowable over the cited art for itself and because it depends on

28 allowable claim 1.

29

30 *13. Regarding Claims 13-16, 18, 19, 21-24, 26, 28-30, 32-40 the limitations of these*

31 *claims have been noted in the above rejections. They are therefore rejected as set forth*

32 *above.*

33

1   In response, the applicant respectfully states that exception is taken with the broad brush rejection

2   of a Claims 13-16, 18, 19, 21-24, 26, 28-30, 32-40. A review of the cited portions of Bowman

3   fails to show that Bowman alludes to or anticipates the elements in Claims 13-16, 18, 19, 21-24,

4   26, 28-30, 32-40. Bowman does not allude to a query not including a category and the selection

5   of items based upon graph traversal of Claims 13-16, 18, 19, 21-24, 26, 28-30, 32-40. Bowman

6   apparently uses 'selection specification' instead of 'user criterion'. Bowman's selection

7   specification apparently may include a query and a category.

8

9   Furthermore, all these claims are dependent claims and each has all the limitations of the claim

10   that each depends from. In as much, as it was shown that Bowman doesn't anticipate the

11   independent claims, Bowman can not be construed to anticipate the dependent claims.

12

13   A review of the cited portions of Bowman shows that Bowman fails to show a "step of searching

14   for related objects comprises employing a user criterion taken from a group of criteria consisting

15   of: difficulty level greater than, less than, or equal to one or more particular values, level of detail

16   greater than, less than, or equal to one or more particular values, resource type equal to one or

17   more particular values, media format equal to one or more particular values, media type equal to

18   one or more values, and any combination of these criteria," as in claim 13.

19

20   A review of the cited portions of Bowman shows that Bowman fails to show a step of "choosing

21   target objects from the rank-ordered list" as in claim 14..

22

23   A review of the cited portions of Bowman shows that Bowman fails to show collection "wherein

24   the path evaluation criterion is a criterion taken from a group of criteria consisting of: path length

25   higher than, lower than, or closest to a desired value, minimum or maximum path length, greatest

26   number of target objects, highest sum or average of object relevance scores, highest sum of

27   category scores averaging object relevance scores within categories, smallest number of breaks,

28   smallest number of categories having a number of objects below a minimum number of objects,

29   and any combination of these criteria," as in claim 15.

30

1 A review of the cited portions of Bowman shows that Bowman fails to show collection "wherein

2 the object selection criterion is a criterion taken from a group of criteria consisting of:

3 membership in the set of target objects, highest relevance score, membership one or more

4 categories on said best path, a total number of objects on said best path less than a maximum or

5 greater than a minimum, a sum of the duration of the objects less than a maximum or greater than

6 a minimum or closest to a desired value, and any combination of these criteria," as in claim 16.

7

8 A review of the cited portions of Bowman shows that Bowman fails to show "a repository to

9 store the collection of objects," as in claim 18.

10

11 A review of the cited portions of Bowman shows that Bowman fails to show a computer program

12 product comprising a computer usable medium having computer readable program code means

13 embodied therein for causing data retrieval, the computer readable program code means in said

14 computer program product comprising computer readable program code means for causing a

15 computer to effect the functions of claim 19," as in claim 20.

16

17 A review of the cited portions of Bowman shows that Bowman fails to show collection "wherein

18 the meta-data description includes a role," as in claim 21.

19

20 A review of the cited portions of Bowman shows that Bowman fails to show collection "wherein

21 the step of sorting uses a comparison taken from a group of comparisons consisting of: the

22 relative position of categories in a category order, the relative position of roles in a role order; the

23 relative levels of difficulty on a difficulty scale, the relative duration on a time scale, or any

24 combination of these comparisons," as in claim 22.

25

26 A review of the cited portions of Bowman shows that Bowman fails to show "[A]n article of

27 manufacture comprising a computer usable medium having computer readable program code

28 means embodied therein for causing data retrieval, the computer readable program code means in

29 said article of manufacture comprising computer readable program code means for causing a

30 computer to effect the steps of claim 20," as in claim 23.

1

2   A review of the cited portions of Bowman shows that Bowman fails to show "[A] program

3   storage device readable by machine, tangibly embodying a program of instructions executable by

4   the machine to perform method steps for data retrieval, said method steps comprising the steps of

5   claim 20," as in claim 24.

6

7   A review of the cited portions of Bowman shows that Bowman fails to show "[A] computer

8   program product comprising a computer usable medium having computer readable program code

9   means embodied therein for causing data retrieval, the computer readable program code means in

10   said computer program product comprising computer readable program code means for causing a

11   computer to effect the functions of claim 25, as in claim 26.

12

13   Similarly a review of the cited portions of Bowman shows that Bowman fails to show the

14   elements of claims 28-30, 32-40. All these claims are dependent claims and have all the

15   limitations of the claim each depends upon.

16

17   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

18   the step of creating is to satisfy a user query, as in claim 28..

19

20   A review of the cited portions of Bowman shows that Bowman fails to show "[A]n article of

21   manufacture comprising a computer usable medium having computer readable program code

22   means embodied therein for causing data retrieval, the computer readable program code means in

23   said article of manufacture comprising computer readable program code means for causing a

24   computer to effect the steps of claim 27, as in claim 29.

25

26   A review of the cited portions of Bowman shows that Bowman fails to show "[A] program

27   storage device readable by machine, tangibly embodying a program of instructions executable by

28   the machine to perform method steps for data retrieval, said method steps comprising the steps of

29   claim 27, as in claim 30.

30

1   A review of the cited portions of Bowman shows that Bowman fails to show "[A]n article of

2   manufacture comprising a computer usable medium having computer readable program code

3   means embodied therein for causing assembly of a course, the computer readable program code

4   means in said article of manufacture comprising computer readable program code means for

5   causing a computer to effect the steps of claim 31, as in claim 32.

6

7   A review of the cited portions of Bowman shows that Bowman fails to show "[A] program

8   storage device readable by machine, tangibly embodying a program of instructions executable by

9   the machine to perform method steps for assembling a course, said method steps comprising the

10   steps of claim 31, as in claim 33.

11

12   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

13   the object selection criterion is a criterion taken from a group of criteria consisting of:

14   membership in the set of target objects, highest relevance score, membership one or more

15   categories on said best path, a total number of objects on said best path less than a maximum or

16   greater than a minimum, a sum of the duration of the objects less than a maximum or greater than

17   a minimum or closest to a desired value, the highest ranking objects within each category, the

18   highest ranking objects within categories within a proximity in the graph near the most relevant

19   category, and any combination of these criteria, as in claim 34.

20

21   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

22   the set of objects are linked, as in claim 35.

23

24   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

25   the objects are Web resources and the set of objects are linked using hyperlinks, as in claim 36.

26

27   A review of the cited portions of Bowman shows that Bowman fails to show a computer program

28   product providing a means for displaying the course, as in claim 37.

29

1   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

2   the objects are Web resources and the set of objects are linked using hyperlinks, as in claim 38.

3

4   A review of the cited portions of Bowman shows that Bowman fails to show collection,

5   comprising means for displaying the particular objects, as in claim 39.

6

7   A review of the cited portions of Bowman shows that Bowman fails to show collection, wherein

8   said query including a maximum, minimum, or desired duration, as in claim 40.

9

10   In review, Bowman does not allude to, anticipate or include difficulty level greater than, less than,

11   or equal to one or more particular values, level of detail greater than, less than,, or equal to one or

12   more particular values, resource type equal to one or more particular values, media format equal

13   to one or more particular values, media type equal to one or more values, and any combination of

14   these criteria.

15

16   Bowman does not allude to, anticipate or perform the graph traversal to connect selected items,

17   include path evaluation criteria, or include object selection criteria that use duration.

18

19   Bowman does not allude to, anticipate or select items with an associated (or assigned) difficulty

20   level or duration.

21

22   Bowman does not allude to, anticipate or use duration constraints.

23

24   Bowman does not allude to, anticipate or use roles. A role is a purpose of a given object relative

25   to a collection of objects.

26

27   Bowman does not allude to, anticipate or perform sorting using category, role, difficulty, or

28   duration.

29

30   Bowman does not involve items with metadata.

1

2 Bowman does not use object selection criteria of membership in a set of target objects, total

3 number of objects on the best path, duration constraints, or graph proximity.

4

5 Bowman does not display a course.

6

7 Bowman does not display or apparently execute objects.

8

9 Bowman queries do not include duration constraints.

10

11 Thus claims 13-16, 18, 19, 21-24, 26, 28-30, 32-40 are allowable each for itself and because each

12 depends on an allowable claim.

13

14 It is anticipated that this amendment brings claims 1-40 to allowance. If any questions remain,

15 please contact the undersigned representative before issuing a FINAL action.

16

17 Please charge any fee necessary to enter this paper to deposit account 50-0510.

18

19   Respectfully submitted,

20
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